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(54) Solid oil in water type cosmetic composition

Feste kosmetische Zusammensetzung vom Typ Öl-in-Wasser

Composition cosmétique solide de type huile dans eau

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(56) References cited:
EP-A- 0 317 899 EP-A- 0 522 624
DE-A- 3 725 056 FR-A- 2 573 290
FR-A- 2 618 351 US-A- 3 903 345
US-A- 4 728 210

- PATENT ABSTRACTS OF JAPAN vol. 12, no. 209
(C-504) 15 June 1988 & JP-A-63 007 757 (NIPPON
OIL & FATS CO LTD)
- Section Ch, Week 7950, Derwent Publications
Ltd., London, GB; Class A03, AN 79-90008B &
JP-A-54 095 668 (NAKAMURA)
- Cosmetic Ingredients Dictionary, 1982 page 51
citric acid
- Encyclopedia of shampoo Ingredients,
1985, page 283 Milk

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Description

[0001] The present invention relates to a solid oil-in-water type (o/w-type) cosmetic composition, and, more particularly, to a solid o/w-type cosmetic composition which imparts a fresh feel on use, exhibits good affinity to the skin, gives a natural make-up finish, possesses superior moisturizing properties, provides excellent ease of application, and is convenient to carry. Further, the present invention relates to a process for molding this o/w-type solid cosmetic composition.

[0002] Water-in-oil type (w/o-type) cosmetic compositions are conventionally known as a solid cosmetic composition containing water. Although these solid w/o-type cosmetic compositions are excellent in treatment characteristics such as skin protection capability and softness, they lack in freshness. They are sticky and oily, and do not impart a satisfactory intimate feel to the skin.

[0003] On the other hand, o/w-type cosmetic compositions are highly evaluated due to the fresh feel on use, intimate feel to the skin, and natural make-up finish.

[0004] However, because o/w-type cosmetic compositions are normally liquid or creamy, they must be stored in containers such as bottles or tubes, for which the openings must be tightly sealed with a cap or the like. Thus, they are inconvenient to use and to carry around.

[0005] Development of a solid o/w-type cosmetic composition having excellent cosmetic characteristics inherent in the o/w-type and adaptable to filling into a container which is handy, portable and convenient to use has been therefore desired.

[0006] FR-A-2 618 351 discloses transparent oil-in-water compositions comprising 50-80% of an oil component, 0.5-5% of a surfactant, 2-10% of a hydrocolloid, and optionally citric acid, wherein the difference in the refractive index between the aqueous phase and the oil phase is not more than 0.005.

[0007] In view of this situation, the present inventors have undertaken extensive studies and found that a cosmetic composition obtained by solidifying a composition comprising a specific water-soluble solidifying agent, an oil component, water and a cosmetic powder possesses both the excellent cosmetic characteristics inherent in o/w-type cosmetics and superior usability and portability.

[0008] The present inventors have further found that the usability can be improved if the cosmetic composition is molded so as to have a noncontinuous surface after solidification.

[0009] Accordingly, the present invention provides a solid o/w-type cosmetic composition comprising

- (a) a water-soluble solidifying agent consisting of agar,
- (b) an oil component,
- (c) water, and
- (d) a cosmetic powder selected from the group consisting of titanium dioxide, talc, mica, kaolin, magnesium carbonate, calcium carbonate, aluminium silicate, magnesium silicate, calcium silicate, zinc oxide, red iron oxide, yellow iron oxide, black iron oxide, ultramarine blue, prussian blue, tar pigment, natural pigments, titanated mica, iron oxide titanated mica, bismuth oxychloride, nylon powder and silk powder.

[0010] Further, the present invention provides a process for molding a solid o/w-type cosmetic composition comprising

- (a) a water-soluble solidifying agent selected from the group consisting of agar and gelatin, (b) an oil component, (c) water, and optionally (d) a powder, which comprises

applying a water-carrying sheet material to the surface of the o/w-type cosmetic composition before solidification, solidifying the o/w-type cosmetic composition by cooling, and releasing said water-carrying sheet material.

[0011] The water-soluble solidifying agent, which is component (a) used in preparing the solid o/w-type cosmetic composition of the present invention functions so as to solidify the cosmetic composition and to provide hardness required for it to be convenient to use and to be portable.

[0012] This water-soluble solidifying agent is agar, with no restrictions as to its origin or the areas where it has been produced. Agar provides a better sensation to the touch upon use.

[0013] The amount of component (a) in the composition is normally about 0.1 to 10% by weight ("by weight" is hereinafter referred to simply as "%"), and preferably 0.3 to 7%. If, the amount of component (a) is less than 0.1%, sufficient hardness of the solidified cosmetic composition cannot be obtained; if it is greater than 10%, the composition is too hard, does not impart the intended watery, fresh sensation, and does not extend well, resulting in an incomplete, non-uniform make-up finish.

[0014] There are no limitations to the oil component which is used as component (b) of the present invention. Any

oils which are commonly used in cosmetics including solid, semi-solid or liquid oils, such as various vegetable oils, animal oils, mineral oils and synthetic oils, can be used.

[0015] Specific examples of the oil components include oils and fats such as olive oil, jojoba oil and mink oil; waxes such as beeswax and candellila wax; hydrocarbons such as liquid paraffin, microcrystalline wax and petrolatum; fatty acids such as stearic acid and oleic acid; higher alcohols such as cetanol; esters such as isopropyl myristate; lanolin derivatives such as isopropyl lanolin fatty acid and lanolin alcohol; esters of starch fatty acid; silicone compounds such as methylpolysiloxane, methylphenylpolysiloxane, and dimethylpolysiloxane polymers having a three dimensional cross-linked structure.

[0016] These oil components may be used either singly or in combination of two or more. It is desirable that they be incorporated in an amount of about 0.5 to 30%, particularly 1 to 20%, in the composition of the present invention.

[0017] If this amount is smaller than 0.5%, close fitness to the skin and water resistance of the make-up films are insufficient; if greater than 30%, the composition does not impart the intended watery, fresh sensation, but gives an oily and sticky feel.

[0018] Water, which is component (c) of the present invention, is used preferably in an amount of about 40 to 95%, and particularly preferably about 50 to 80%.

[0019] In the case where the o/w-type cosmetic composition of the present invention is used as foundation or eye-shadow, it is necessary that a cosmetic powder described below, as component (d), be incorporated in addition to said essential components.

[0020] The cosmetic powder is selected from the group consisting of titanium dioxide, talc, mica, kaolin, magnesium carbonate, calcium carbonate, aluminum silicate, magnesium silicate, calcium silicate, zinc oxide, red iron oxide, yellow iron oxide, black iron oxide, ultramarine blue, prussian blue, tar pigment, natural pigments, titanated mica, iron oxide titanated mica, bismuth oxychloride, nylon powder and silk powder.

[0021] Powders provided with water repellency by a hydrophobic treatment can be used also as component (d). Fluorine compounds, silicone oils, metallic soaps, waxes, oils and fats and hydrocarbons can be given as materials for the hydrophobic treatment.

[0022] These cosmetic powders may be used in an amount of 1 to 40%, and preferably 3 to 30%.

[0023] Other components which are commonly used in cosmetics, such as moisturizers, preservatives, anti-oxidants, UV absorbers, skin-improvers, perfumes, surfactants, lower primary alcohols, lower polyhydric alcohols, water-soluble polymers and clay minerals, can be added to the o/w-type cosmetic composition to the extent that the effects of the present invention are not adversely affected.

[0024] The solid o/w-type cosmetic composition can be prepared by emulsifying components (b) and (c) into an o/w-type emulsion by a conventional method, adding component (d) or other optional components as needed, and solidifying the mixture with the addition of component (a).

[0025] In one embodiment of the preparation of the cosmetic composition of the present invention, component (a) is dissolved in component (c) with heating, this solution is mixed with component (b) and component (d), while stirring, and any desired optional components are further added to the mixture. Following this, the mixture is filled into a container and cooled to solidify.

[0026] Because of the inherent nature of the water-soluble solidifying agent which is incorporated in the o/w-type cosmetic composition as an essential component, the composition of the present invention as solidified presents a smooth continuous surface for which the structure is different from that inside the composition. When the composition is filled into a container and prepared into a product of the type, for example, such as a foundation, of which a small portion is taken by an applicator such as a sponge, this smooth continuous surface causes the applicator to slip over it and prevents the cosmetic from being used.

[0027] In such an instance, exposing the inside texture of the cosmetic as the surface, for example, by mechanically cutting out the molded surface, may achieve the objective. However, this objective can be achieved more advantageously by the application of the molding method which has been developed by the present inventor.

[0028] Specifically, it is possible to have the inside texture exposed as the surface of the cosmetic composition and to produce a minute irregular non-continuous layer on the surface by applying a water-carrying sheet material to the surface of the o/w-type cosmetic composition after it has been filled into a container, such as a metal dish, and before it is solidified, then solidifying this cosmetic composition by cooling, and releasing said water-carrying sheet material. The surface of the cosmetic composition thus produced greatly promotes ease of application of the cosmetic composition.

[0029] Any materials which can contain a certain amount of water, such as meshes, non-woven textiles, textiles and papers, can be used as the water-carrying sheet material for the molding process of the present invention. Because the affinity of the cosmetic composition to the sheet material is affected by the amount of water contained in the latter, the water-carrying ability of the sheet materials should be taken into account in selecting types of this material used.

[0030] If the water-carrying ability of the sheet material is poor and the amount of water contained therein is too small, it is impossible to expose the inside texture of the cosmetic composition. Even if irregularities are externally seen

to have been produced on the surface, the surface actually is found to remain smooth when observed minutely. The cosmetic composition with such a surface is difficult to attach to an applicator such as sponge. Too great water-carrying ability, on the other hand, causes too much water to be transferred from the cosmetic composition to the sheet material. This causes the cosmetic composition to dry up and to adhere to the sheet material, and eventually makes it difficult to smoothly release the sheet material after solidification of the cosmetic composition by cooling. In this case, the surface of the cosmetic after release of the sheet material may be unduly rough and uneven so that its commercial value may be lost.

[0031] As a result of tests on various textile materials in order to investigate a suitable material for use in the molding process of the present invention, those having a water-carrying rate of about 10 to 250%, preferably about 30 to 200%, as calculated by the following equation, were found to be usable as the water-carrying sheet material in the present invention irrespective of the type of material.

$$\text{Water-carrying rate (\%)} = [(W_2 - W_1)/W_1] \times 100$$

wherein W_1 is the dry weight of the material and W_2 is the weight when water is contained.

[0032] Any materials irrespective of the type of the material, including textiles made of fibers such as acetate, nylon, polyester, acryl, polypropylene or mixtures of these fibers, can be suitably used as the water-carrying sheet material in the present invention, so long as they satisfy the water-carrying rate of the above range.

[0033] The solid o/w-type cosmetic composition obtained by the method mentioned above is made up of a texture in which oil components are dispersed in an aqueous phase. Because it is solid with no fluidity in the temperature range (0° to 50°C) at which it is normally stored or used, the product is handy and readily portable, while preserving the excellent cosmetic characteristics inherent in an o/w-type cosmetic composition.

[0034] The o/w-type cosmetic composition of the present invention therefore can be used with special advantage as solid cosmetic products such as base creams, sun screening creams, foundations, eyeshadows, and rouge.

[0035] Other features of the invention will become apparent in the following description of the exemplary embodiments which are given for illustration of the invention.

EXAMPLE

Examples 1-3, Comparative Examples 1-4

(Foundations)

[0036] O/w-type foundations were prepared from components listed in Table 1 according to the method described below.

(Method of preparation)

[0037]

A. Components (11) to (19) were heated and dissolved.

B. Components (1) to (9) were added to the solution A and blended to disperse.

C. After the addition of component (10), the dispersion B was filled in a container and cooled. In filling the o/w-type cosmetic compositions, a sheet of a water-carrying material was applied over the surface of the composition filled in a container and this sheet was peeled off after the composition has been solidified.

(Formulation)	TABLE 1		% by weight			
	Example				Comparative Example	
	1	2	3	1	2	3
Component	1	2	3	1	2	3
(1) Titanium dioxide	7.0	-	-	7.0	-	-
(2) Talc	5.0	-	-	5.0	-	-
(3) Titanium dioxide treated with a fluorine compound *	-	7.0	7.0	-	7.0	7.0
(4) Talc treated with a fluorine compound *	-	5.0	5.0	-	5.0	5.0
(5) Color pigment	q.s.	q.s.	q.s.	q.s.	q.s.	q.s.
(6) Soybean phospholipid	1.0	1.0	1.0	-	1.0	1.0
(7) Polyoxyethylene sorbitan oleate	1.0	1.0	1.0	-	1.0	1.0
(8) Trioctanoic glyceride	2.0	2.0	2.0	-	2.0	2.0
(9) Sucrose fatty acid ester	1.0	1.0	1.0	-	1.0	1.0
(10) Perfume	q.s.	q.s.	q.s.	q.s.	q.s.	q.s.

TABLE 1 (Continued)

Component	Example				Comparative Example				% by weight
	1	2	3	q.s.	1	2	3	4	
(11) Preservative	q.s.	q.s.	q.s.	q.s.	q.s.	q.s.	q.s.	q.s.	
(12) 1,3-Butylene glycol	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
(13) Agar	1.0	0.3	5.0	2.0	-	-	-	11.0	
(14) Carageenan	-	0.1	-	-	-	-	-	-	
(15) Methylcellulose	-	-	-	-	-	0.5	-	-	
(16) Carboxyvinyl polymer	-	-	-	-	-	-	0.5	-	
(17) Glycylrrrhizinic acid	-	-	-	-	-	4.0	-	-	
(18) Sodium hydroxide	-	-	-	-	-	-	0.1	-	
(19) Purified water	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	

* The method of treating with a fluorine compound

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[0038] A slurry was produced from 50 g of a powder and 1,000 ml of water. Separately, an emulsion was prepared by adding 350 ml of water to 9 g of diethanolamine fluoroalkylphosphate (Asahi Guard AG530: trademark, manufactured by Asahi Glass Co.) and stirring the mixture.

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[0039] This emulsion was slowly added to the slurry. The mixture was stirred and allowed to stand still at room temperature to complete the fluorine treatment.

Comparative Example 5

(Solid w/o-type foundation)

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[0040] A w/o-type foundation was prepared from the following components.

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(Component)		% by weight
(1)	Titanium dioxide	15.0
(2)	Talc	5.0
(3)	Silicic acid anhydride	5.0
(4)	Color pigment	q.s.
(5)	Ceresine	3.0
(6)	Microcrystalline wax	5.0
(7)	Squalane	10.0
(8)	Trioctanoic glyceride	Balance
(9)	Methylpolycyclosiloxane	20.0
(10)	Sorbitan monooleate	1.0
(11)	Polyoxyethylene sorbitan oleate	1.0
(12)	Soybean phospholipid	0.5
(13)	Preservative	q.s.
(14)	1,3-Butylene glycol	5.0
(15)	Purified water	15.0
(16)	Perfume	q.s.

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(Method of preparation)

[0041]

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A. Components (5) to (12) were heated and dissolved, and component's (1) to (4) were added to the solution. The mixture was blended to disperse.

B. Components (13) to (15) were heated and dissolved.

C. Solution B was added to solution A to emulsify. After the addition of component (16), the emulsion was filled in a container and cooled. The same molding method as used for molding the cosmetic compositions of Examples 1-3 was adopted.

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Test Example 1

[0042] Hardness, shape-retention ability and feel during use were evaluated on the foundations prepared in Examples 1-3 and Comparative Examples 1-5. The results are shown in Table 2.

(Method of Evaluation)

(1) Hardness

[0043] The stress (g/cm^2) was measured when a cylindrical adapter (cross-section diameter 10 mm \varnothing) was immersed for a specified distance (2 mm) at a specified speed (6 cm/sec) using a rheometer manufactured by Fudo Industries, Ltd. The value of the stress was taken as the hardness.

[0044] Normally, it is desirable that solid cosmetic compositions have a hardness in the range of 20 to 2,000 g/cm^2 , when measured by the above method. If the hardness is smaller than 20 g/cm^2 , the shape-retention capability as a solid cosmetic is poor; if it is greater than 2,000 g/cm^2 , it is difficult for the cosmetic composition to attach to fingers or applicators when used.

(2) Shape-retention capability

[0045] Compositions were filled into a cylindrical dish-type container with a diameter of 50 mm and a depth of 10 mm and stored at 50°C for 24 hours. The compositions which remained solid were rated as good (AAA) and those which lost solidity were rated as bad (CCC).

(3) Feel during use

[0046] A test for evaluating usability was carried out by 10 expert panelists. Each composition was evaluated in terms of releasability, wateriness, and the like, and rated by each panelist according to the following criteria. The mean value of ten panelists was adopted in the judgment.

Evaluation criteria:

[0047]

Very good: 3
Good: 2
Fair: 1
Bad: 0

Judgment:

[0048]

AAA: 2 or more
BBB: 1 or more but less than 2
CCC: less than 1

(Results)

[0049]

TABLE 2

Items	Examples			Comparative Examples				
	1	2	3	1	2	3	4	5
Hardness (g/cm^2)	150	60	1600	480	0	0	2200	180
Shape retention	AAA	AAA	AAA	AAA	CCC	CCC	AAA	AAA

TABLE 2 (continued)

Items	Examples			Comparative Examples				
	1	2	3	1	2	3	4	5
Releasability	AAA	AAA	AAA	AAA	CCC	CCC	CCC	AAA
Wateriness	AAA	AAA	AAA	AAA	AAA	AAA	BBB	CCC
Freshness	AAA	AAA	AAA	AAA	AAA	AAA	BBB	CCC
Fitness	AAA	AAA	AAA	CCC	BBB	AAA	AAA	BBB
Natural finish	AAA	AAA	AAA	CCC	AAA	AAA	BBB	CCC
Water resistivity	AAA	AAA	AAA	CCC	AAA	AAA	BBB	AAA

[0050] As can be seen from Table 2, the o/w-type foundations of the present invention impart an excellent feel during use, while maintaining their properties as a solid cosmetic composition. In addition, they exhibit superior usability, if the surface thereof is treated by the method of the present invention.

Example 4

(Preparation of eyeshadow)

[0051]

(Component)	% by weight
(1) Silicone-treated titanium dioxide *	2.0
(2) Silicone-treated titanated mica *	10.0
(3) Silicone-treated sericite *	3.0
(4) Color pigment	2.0
(5) Sorbitan sesquioleate	2.0
(6) Squalane	1.0
(7) Candellila wax	1.0
(8) Perfume	q.s.
(9) Preservative	q.s.
(10) 1,3-Butylene glycol	5.0
(11) Agar	0.5
(12) Gelatin	1.5
(13) Purified water	Balance

* The method of the silicone treatment

[0052] A powder and methylhydrogenpolysiloxane (2 parts for 98 parts of the powder) was added to isopropyl alcohol and treated with heating at 120°C for 2 hours.

(Method of preparation)

[0053]

- A. Components (9) to (13) were heated and dissolved.
- B. Components (1) to (7) were heated and blended, added to solution A, and blended to disperse.

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C. Component (8) was added to dispersion B, and the mixture was filled in a container and cooled. The same molding method as used for molding the cosmetic compositions of Examples 1-3 was adopted.

Example 5 (reference example)

(Preparation of rouge)

[0054]

(Component)	% by weight
(1) Titanium dioxide	5.0
(2) Titanated mica	5.0
(3) Sericite	5.0
(4) Talc	10.0
(5) Color pigment	q.s.
(6) Polyoxyethylene castor oil (3EO)	1.0
(7) Soybean phospholipid	1.0
(8) Starch fatty acid ester	0.5
(9) Isocetyl stearate	5.5
(10) Perfume	q.s.
(11) Preservative	q.s.
(12) 1,3-Butylene glycol	5.0
(13) Gelatin	3.0
(14) Purified water	Balance

(Method of preparation)

[0055]

A. Components (11) to (14) were heated and dissolved.

B. Components (1) to (9) were heated and blended, added to solution A, and blended to disperse.

C. Component (10) was added to dispersion B, and the mixture was filled in a container and cooled. The same molding method as used for molding the cosmetic compositions of Examples 1-3 was adopted.

Example 6

(Preparation of sweat suppressing cream)

[0056]

(Component)	% by weight
(1) Trioctanoic glyceride	2.0
(2) Squalane	1.0
(3) Microcrystalline wax	1.0

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(continued)

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(Component)		% by weight
(4)	Sucrose fatty acid ester	1.0
(5)	Polyoxyethylene sorbitan oleate	1.0
(6)	Color pigment	q.s.
(7)	Perfume	q.s.
(8)	Preservative	q.s.
(9)	1,3-Butylene glycol	10.0
(10)	Agar	1.5
(11)	1-Menthol	0.1
(12)	Purified water	Balance

(Method of preparation)

20 [0057]

A. Components (1) to (7) were heated and blended.

B. Components (8) to (12) were heated and dissolved.

25 C. Solution A was added to solution B, and the mixture was blended, filled in a container, and cooled. The same molding method as used for molding the cosmetic compositions of Examples 1-3 was adopted.

Reference Example 1

(Preparation of sun screening cream)

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[0058]

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(Component)		% by weight
(1)	Silicone-treated micronized titanium dioxide	5.0
(2)	Soybean phospholipid	1.0
(3)	Polyoxyethylene sorbitan oleate	1.0
(4)	Trioctanoic glyceride	2.0
(5)	Sucrose fatty acid ester	1.0
(6)	Perfume	q.s.
(7)	UV absorbent	3.0
(8)	Preservative	q.s.
(9)	1,3-Butylene glycol	10.0
(10)	Gelatin	3.0
(11)	Xanthane gum	0.1
(12)	Purified water	Balance

(Method of preparation)

[0059]

- 5 A. Components (8) to (12) were heated and dissolved.
 B. Components (1) to (7) were heated and dissolved.
 C. Solution B was added to solution A, and the mixture was blended, filled in a container, and cooled. The same molding method as used for molding the cosmetic compositions of Examples 1-3 was adopted.

10 Test Example 2

Surface processing test:

- 15 [0060] Suitability of various materials as a sheet material was evaluated using a cosmetic having the same composition as the foundation prepared in Example 1 according to the following method.

(Method)

- 20 [0061] The cosmetic composition was heated to melt, filled into a container and, after the attachment of the sheet material, cooled to solidify, whereupon the sheet material was peeled off. Ease of release after solidification, the conditions of the surface after peeling, and attachability of the foundation to a sponge were evaluated.

(Evaluation)

25 Moldability (ease of peeling):

[0062]

- 30 AAA: Good (The amount adhering to the sheet material was small)
 BBB: Bad (The amount adhering to the sheet material was large)

Surface conditions:

[0063]

- 35 AAA: Uniform
 BBB: Non-uniform (there were irregularities in peeling)

Usability (attachability to a sponge)

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[0064]

- 45 AAA: Attaches to the sponge
 BBB: Does not attach to the sponge

(Results)

[0065]

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TABLE 3

Material		Water-carrying rate (%)	Moldability	Surface conditions	Usability
(1)	Acetate textile	79	AAA	AAA	AAA
55	(2)	Nylon textile (100 mesh)	52	AAA	AAA
	(3)	Polyester textile	83	AAA	AAA

TABLE 3 (continued)

Material	Water-carrying rate (%)	Moldability	Surface conditions	Usability
(4) Acryl textile	65	AAA	AAA	AAA
(5) Cotton textile	318	BBB	BBB	AAA
(6) Japanese paper	947	BBB	BBB	AAA
(7) Rayon non-woven sheet	892	BBB	BBB	AAA
(8) Linen textile	290	BBB	BBB	AAA
(9) No surface treatment	-	-	AAA	BBB

[0066] The above results confirmed that materials having too high an affinity to the cosmetic composition adhered to it and could not be completely peeled off after solidification by cooling, and the products had no commercial value.

[0067] As illustrated above, the o/w-type solid cosmetic composition of the present invention imparts a fresh feel during use, and exhibits excellent affinity to the skin, a good make-up finish and a superb moisturizing effect, while excelling in usability and portability.

[0068] Because the molding method of the present invention can produce a non-continuous cosmetic surface with the inner texture exposed thereon, it is easy to take up the cosmetic composition with an applicator. This further improves the usability of the o/w-type solid cosmetic composition of the present invention.

Claims

1. A solid O/W-type cosmetic composition comprising,

- (a) a water-soluble solidifying agent consisting of agar,
- (b) an oil component,
- (c) water, and

(d) a cosmetic powder selected from the group consisting of titanium dioxide, talc, mica, kaolin, magnesium carbonate, calcium carbonate, aluminium silicate, magnesium silicate, calcium silicate, zinc oxide, red iron oxide, yellow iron oxide, black iron oxide, ultramarine blue, prussian blue, tar pigment, natural pigments, titanated mica, iron oxide titanated mica, bismuth oxychloride, nylon powder and silk powder.

2. A solid O/W-type cosmetic composition according to claim 1, wherein the content of the oil component is 0.5 to 30% by weight of the composition.

3. A process for molding a solid O/W-type cosmetic composition comprising,

- (a) a water-soluble solidifying agent selected from the group consisting of agar and gelatin, (b) an oil component, (c) water, and optionally (d) a powder, which comprises

applying a water-carrying sheet material to the surface of the O/W-type cosmetic composition before solidification, solidifying the O/W-type cosmetic composition by cooling, and releasing said water-carrying sheet material.

Patentansprüche

1. Feste kosmetische Zusammensetzung vom O/W-Typ, umfassend

- (a) ein aus Agar bestehendes, wasserlösliches Verfestigungsmittel,
- (b) eine Ölkomponente,
- (c) Wasser, und

(d) ein kosmetisches Pulver, gewählt aus der Gruppe, bestehend aus Titandioxid, Talk, Glimmer, Kaolin, Magnesiumcarbonat, Calciumcarbonat, Aluminiumsilicat, Magnesiumsilicat, Calciumsilicat, Zinkoxid, rotes Eisenoxid, gelbes Eisenoxid, schwarzes Eisenoxid, Ultramarinblau, Preußischblau, Teerpigment, natürlichen Pigmenten, Titanat-Glimmer, Eisenoxid-Titanat-Glimmer, Wismutoxychlorid, Nylonpulver und Seidepulver.

2. Feste kosmetische Zusammensetzung vom O/W-Typ nach Anspruch 1, wobei der Gehalt der Ölkomponente 0,5 bis 30 Gew.-% der Zusammensetzung beträgt.

3. Verfahren zur Formung einer festen kosmetischen Zusammensetzung vom O/W-Typ, umfassend

- (a) ein wasserlösliches Verfestigungsmittel, gewählt aus der Agar und Gelatine umfassenden Gruppe,
- (b) eine Ölkomponente, (c) Wasser und wahlweise (d) ein Pulver, umfassend

Applizieren eines wassertragenden Blattmaterials auf die Oberfläche der kosmetischen Zusammensetzung vom O/W-Typ vor der Verfestigung,

Verfestigen der kosmetischen Zusammensetzung vom O/W-Typ durch Kühlen, und Ablösen des wassertragenden Blattmaterials.

Revendications

1. Une composition cosmétique solide du type huile dans eau comprenant:

- (a) un agent de solidification soluble dans l'eau constitué d'agar,
- (b) un composant huile
- (c) de l'eau, et
- (d) une poudre cosmétique choisie dans le groupe constitué de dioxyde de titane, talc, mica, kaolin, carbonate de magnésium, carbonate de calcium, silicate d'aluminium, silicate de magnésium, silicate de calcium, oxyde de zinc, oxyde rouge de fer, oxyde jaune de fer, oxyde noir de fer, bleu outremer, bleu de Prusse, pigment dérivés de goudrons, pigments naturels, mica titané, mica titané d'oxyde de fer, oxychlorures de bismuth, poudre de nylon et poudre de soie.

2. Une composition cosmétique solide du type huile dans eau selon la revendication 1, dans laquelle la teneur du composant huile est de 0,5 à 30 % en poids de la composition.

3. Un procédé pour mouler une composition cosmétique solide du type huile dans eau comprenant,

- (a) un agent de solidification soluble dans l'eau choisi dans le groupe constitué d'agar et de gélatine, (b) un composant huile, (c) de l'eau, et de manière optionnelle (d) une poudre, comprenant

l'application d'un matériau en feuille porteur d'eau à la surface de la composition cosmétique du type huile dans eau avant solidification, la solidification de la composition cosmétique du type huile dans eau par refroidissement, et l'enlèvement dudit matériau en feuille porteur d'eau.